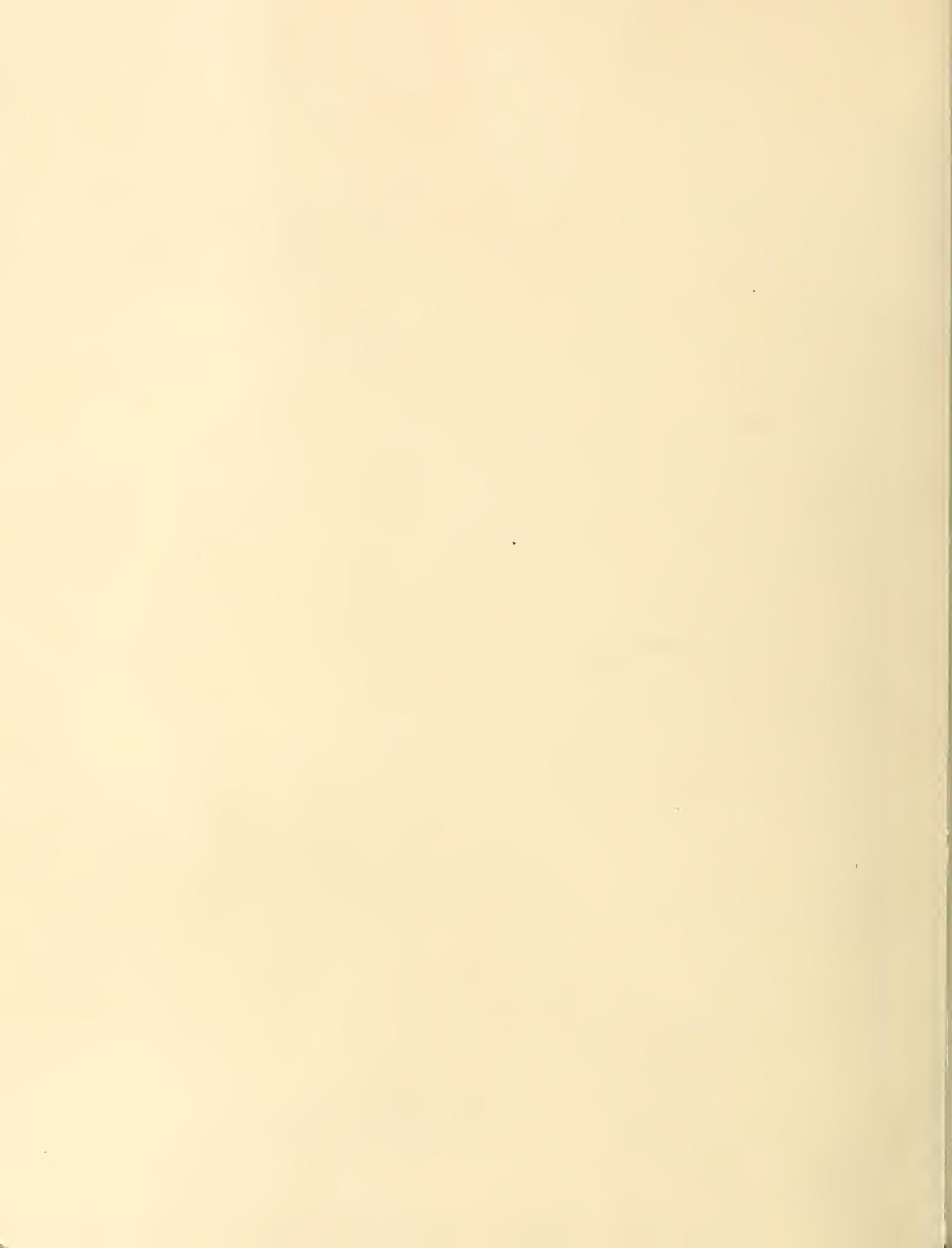


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Extension Service Review

W. A. L. HAMBLETON



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CAPITALIZING THE HOME ORCHARD AND GARDEN

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In This Issue

ALADDIN with his wonderful lamp was the forerunner of the agricultural extension engineer of to-day. A field of activity that magically touches every phase of American farming and farm life. That's what S. H. McCrory, chief of the department's new Bureau of Agricultural Engineering describes in handling the land, the problems of soil erosion, irrigation, and drainage. In farm operation, the problems of building, equipment, and power. In the home, problems of building and rebuilding, problems of lighting, heating, and ventilation, problems of water supply and sewage disposal. These are the field of the agricultural engineer.

 **E**VERY ACRE of farm woodland in North Carolina under profitable management. That's the ambitious goal that R. W. Graeber, extension forester, has set for himself and cooperative county agents. There are some 12,000,000 acres of such woodland in North Carolina, and Graeber sets 10 years as the time in which to get all this territory on a well-managed basis. Power to him!

WHAT is the educational field with which the Federal Farm Board is concerned? What are the things that it wishes farmers to know and understand? Frank Evans answers that any and all educational effort leading to the permanent success of cooperative marketing is of deep concern to the board. Efficient management and financial independence are the major objectives sought for each cooperative. This means, he says, a better understanding of sound organization, safe financing, and businesslike operation by association members.

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ONE-DAY builders' schools for interested farmers, carpenters, and builders have been held in Kansas counties for several years. These schools, according to W. G. Ward, extension agricultural engineer, have been invaluable in bringing about a better understanding of desirable types of farm structures and construction methods on the part of all concerned.

THE EXTENSION SERVICE REVIEW is issued monthly by the EXTENSION SERVICE of the United States Department of Agriculture, Washington, D. C. The matter contained in the REVIEW is published by direction of the Secretary of Agriculture as administrative information required for the proper transaction of the public business. The REVIEW seeks to supply to workers and cooperators of the Department of Agriculture engaged in extension activities, information of especial help to them in the performance of their duties, and is issued to them free by law. Others may obtain copies of the REVIEW from the Superintendent of Documents, Government Printing Office, Washington, D. C., by subscription at the rate of 50 cents a year, domestic, and 75 cents, foreign. Postage stamps will not be accepted in payment.

C. W. WARBURTON, *Director*

C. B. SMITH, *Assistant Director*

On the Calendar

THE SIXTH national 4-H club camp is scheduled for June 15 to 21, inclusive. It will be held, as previous camps were, in Washington, D. C. Each State and territory may send as its representatives four 4-H club members, two girls and two boys, accompanied by two extension workers. The program for the camp includes daily assembly meetings with guest speakers of note, junior and adult conferences, studies of the work of the Department of Agriculture, and visits to places of historical interest in or near the capital.



UPSETTING the tradition that lime and potatoes can not mix—at least, not without serious detriment to the potatoes—Verne C. Beverly, county agent for Aroostook County, Me., proceeded to find the proper time and place in which to use lime in Aroostook's potato fields.

Failing clover crops, thanks to proper liming, were succeeded by heavy crops. When, following these heavy clover crops, potato fields jumped 10 to 15 barrels per acre, liming had won a secure place in the scheme of things on Aroostook's farms.

J. ROBERT HALL, county agent for Linn County, Mo., tells how and why to take good pictures of extension activities. It's his habit wherever he has a good demonstration to photograph it and to show it with pictures of other similar demonstrations at community meetings during the late fall and winter. "In this way," Hall says, "I show a demonstration that, perhaps, only 40 people have seen to over 4,000 people in my county and I get the idea across."

J. R. BECK of Polk County, Oreg., gives us a fine demonstration of how to use a news story to inform the public of a county of what extension work has accomplished locally in a particular field of endeavor.

REUBEN BRICHAM, *Editor*

Extension Service Review

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Engineering Extension Aid

S. H. McCrory

Chief, Bureau of Agricultural Engineering

THE Bureau of Agricultural Engineering is conducting investigations and researches in those agricultural and farm-home problems which have engineering aspects. When solutions to these problems are found they are published in bulletins and circulars and made available to extension workers in the form of recommendations. This is an engineering age when the forces and materials of nature are being utilized for the service and welfare of mankind to a greater extent than in any previous period of history. Engineering practices are utilized in practically every phase of American agriculture and farm-home life. Some of these practices need to be improved or replaced by new ones. The task of the engineer is to determine the improvement needed and to formulate

recommendations in accordance with which the improved practices can be put into use. The extension objective of the bureau is to make these recommendations for improved engineering practices available to American farmers, their wives, and children. This is done through the Extension Service of the Department of Agriculture and through publications.

The bureau conducts studies to determine and analyze agricultural engineering problems by formulating for farm use, recommendations of engineering practices which will solve these problems, and makes these recommendations available to farmers through cooperative extension work. In order to carry out this work the Bureau of Agricultural

Engineering is represented by an extension agricultural engineer in the Office of Cooperative Extension Work, who is the subject-matter specialist in agricultural engineering. It is his duty to make available to the State extension agricultural engineers the subject-mat-

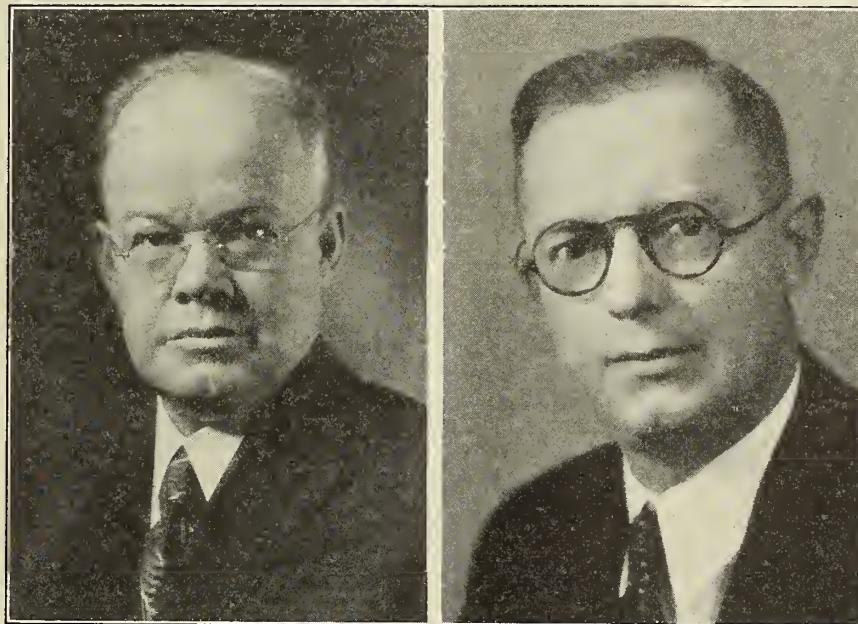
farms. These recommendations, however, are not new, the same practices having been recommended by the former division of agricultural engineering of the Bureau of Public Roads, based on researches and proved practices. These recommendations are of interest to all extension workers, especially county agricultural and home demonstration agents, since engineering practices are related to all cropping and livestock activities and also to the mode of living of the farmer. The recommendations fall under four heads corresponding to four of the research divisions of the bureau, namely, irrigation, drainage, mechanical equipment, and structures.

Successful practice of irrigation antedates written history, but the opening to settlement of irrigation areas in the Western States has

presented new problems. Added to these are problems of pumping for surface, subsurface, and spray irrigation in many States in the humid areas. Recommendations on these topics and others are covered in 41 available bulletins and other publications of the bureau. In addition, motion pictures, slides, film strips, and other extension material have been made available on irrigation topics.

Drainage

Recommendations in drainage of special importance have reference to terracing of farm land to prevent harmful erosion. Low velocity of run-off reduces the soil carrying capacity of the water and makes practical a soil-building pro-



S. H. McCrory,
Chief, Bureau of Agricultural Engineering

S. P. Lyle,
Extension specialist in agricultural engineering

ter recommendations of the Bureau of Agricultural Engineering and the extension-method recommendations of the Office of Cooperative Extension Work. In performing this duty he also acts as a contact man for the exchange of ideas and experiences between the extension agricultural engineers in the various States. The present specialist is S. P. Lyle, who was appointed to the position on September 9, 1930.

Engineering Practices

Since the Bureau of Agricultural Engineering has been established so recently, we will present here the nature of its recommendations relating to the adoption of engineering practices on

gram with crops and fertilizers. The recommendations for terracing harmonize with those in tillage practice which tend to control run-off and its resultant erosion, and also help to insure the success of recommendations for the replacement and maintenance of soil fertility. In some areas of light soils and deficient rainfall the run-off is impounded behind level terraces, thus conserving both moisture and plant food.

Other drainage recommendations relate to the draining of wet spots in cultivated fields and to methods of maintaining existing drainage ditches. The reclamation of new land by drainage is not recommended. The subjects relating to drainage and erosion control are presented in 25 publications of the bureau, as well as motion pictures, slides, film strips, and other extension material.

Land Clearing

Recommended practices for land clearing and development are also presented in bulletins and in other publications and extension aids. Following the war, this activity took the form principally of demonstrating the utility for land improvement of salvaged war explosives such as picric acid, sodatol, and pyrotol. At present, activity in this field is directed not only toward the improvement of crop land by terracing, drainage, clearing, and relocation of field boundaries to fit the farm-crop rotations and pasture system, but also toward the balancing of labor, power, and machinery with the acreage, buildings, and livestock in order that the engineering recommendations shall harmonize with the farm-management, livestock, cropping, and home-improvement programs in the various States.

Recommended practices relating to mechanical equipment vary widely in the different sections of the country, depending on topography, soil, climate, crops, pest control, and marketing factors. Features of the development work in this field are the cooperative demonstrations the bureau has given with mechanical equipment where improvement in design or utilization has resulted from its researches. Reports of these investigations are available in 39 bulletins and other publications of the bureau as well as motion pictures, slides, film strips, exhibits, and other extension aids.

Building Plans

Recommendations in farm structures have been prepared for farm use as building plans, and bills of material distributed in blue-print, bulletin, and circular form. Twenty-seven bulletins on structures and appurtenances have been

published, and more than 200 plans with bills of materials are now available. Copies of an illustrated and descriptive list of these plans were supplied to the State extension directors and to the State extension agricultural engineers three years ago, from which they were invited to make selections for additions to State blue-print service lists. Tracings of such plans can now be supplied for use in State blue-printing services. An additional means of developing the resources of the State extension blue-printing services is being arranged this year. Under the provisions of this plan a large number of the States are pooling their most popular building designs in an exchange system in which the Bu-

trical equipment varies in different sections of the country. As an agency for the procurement of greater satisfaction from farm-home life, electric line service is becoming increasingly more popular. Providing information and making recommendations that will assure satisfaction to rural electric customers is an important means by which the bureau is endeavoring to aid extension workers in many States.

This article merely outlines the salient features of agricultural engineering extension work. Because of the broad contact of engineering applications, all of the subprojects in extension work in which the bureau aids can not be mentioned here, and space permits mention of only a few of the researches being conducted on which future extension projects may be based. The field of mechanical equipment comprises studies of very timely interest in which processes involved in the growing and harvesting of cotton, corn, sugar beets, sugarcane, hay, and other crops are being investigated and developed.

Controlling Soil Erosion

The studies in the control of soil erosion being conducted jointly by the Bureau of Chemistry and Soils, Forest Service, and Bureau of Agricultural Engineering, and cooperating State experiment station offices on nine farms in typical erosion areas of the Nation have already become of demonstration value in the extension field. Here the engineers are determining the best types of terraces to be used under various conditions of soil, land slope, and rainfall; the best methods of checking gullies and of restoring gullied lands; and the utilization of mechanical equipment with various crops on terraced fields.

Rural housing conditions are of especial interest at this time due to the activities of the President's Conference on Home Building and Home Ownership. Architects and engineers of the bureau are participating in the work of this organization with particular interest in improvement of existing farm and rural village homes. Studies of buildings for the storage of crops and agricultural products and for sheltering livestock are continually developing improvements in practices.

The agricultural industry, like all other progressive industries in the United States, must utilize the service of engineers. The Bureau of Agricultural Engineering working through the Extension Service is the agency of the United States Department of Agriculture for making engineering aid available to farmers.

Our Cover

The cellar shown on our cover belongs to Mrs. A. S. Landtrip, Johnson County, Ark., and is just a sample of what has been done in that State as a phase of the live-at-home program. This was one of the many show places visited during pantry stores week when 36 counties celebrated the bountiful production and conservation of the vegetable and fruit crops in Arkansas this year.

Fifty-six home demonstration agents planned exhibits, tours, and other special events to commemorate the canning of hundreds of thousands of jars of food products.

This cellar contains 726 quarts of a considerable variety of canned products as well as a generous supply of stored vegetables.

ureau of Agricultural Engineering acts as a clearing house for the States in the selection, filing, listing, and reproduction of tracings for blue-printing service. The State extension offices participating contribute designs on tracing cloth, and order from the exchange pool duplicate tracings of any designs listed. The plan also provides for agreement between extension agricultural engineers in the States on production of new building designs to avoid duplication of effort.

Home Improvement

Engineering recommendations relating to home improvement are a feature of the structures program of the bureau. Lighting fixtures and running water in the kitchen are the modern improvements desired first in farm homes. Demand for such improvements as modern plumbing, heating systems, gas, and elec-



Texas Bankers Aid Home Demonstration Program

MILDRED F. HORTON

State Home Demonstration Agent, Texas Extension Service

short course at the Texas Agricultural and Mechanical College. Bankers from all over the State come to the college for this conference. The program for one day of each district meeting has been set aside for a joint meeting of bankers and agents of the district. During the day results of the year's work are given and plans for continued cooperation made.

Bankers Visit Demonstrations

As a result of the reorganization and these meetings with the extension agents the bankers have worked in many ways. In the first place, they have been actively interested in visiting demonstrations. Yards, pantries, living rooms, and gardens have been visited and the demonstrator has been given personal encouragement. In the canning work many bankers have made it possible for the women to borrow the money with which to purchase canners, sealers, and even tin cans wherever necessary. Sometimes the cans were paid for by the return of a percentage of the filled cans. Poultry flocks have been started, better houses have been built, and other improvements have been made through the loans made by interested bankers.

Seed for special vegetables for garden demonstrators have been purchased and demonstrations established with the results available to all the people of the county. Much asparagus, rhubarb, swiss chard, kohlrabi, and other vegetables not grown in the State before have found their way to many Texas tables through this cooperation.

Crops Traded

In the panhandle district especially the bankers have been instrumental in making plans for bartering crops. The families are holding a reserve for their own use but are trading the surplus of their crops for those which they do not have—wheat for field peas, wheat for pears, wheat for cotton, wheat for meat.

Club girls and women have been given trips to the short course and to the State fair of Texas by interested bankers. These trips were considered a good investment since these recipients re-

turned home with information and inspiration of great value to the women and girls of their clubs. One west Texas woman expressed the feeling of many when she said, "I don't know how we could have stood the drought if we hadn't been to the short course and had something else to think about all winter long."

Work Supported

In counties without home demonstration agents interested bankers have met the commissioners' court with the citizens of the county, and have presented the need and value of extension work and secured appropriations. In a few counties where there has been a feeling of economy on the part of the commissioners' court the bankers have assisted in maintaining the work—sometimes making it possible for the county to borrow the money for the support of extension work.

W. B. Lee, chairman of the agricultural committee of the Texas Bankers' Association, who succeeded Col. C. S. E. Holland, chairman at the time of reorganization, gave to Texas agriculture the slogan "Every farm a factory every week in the year." This was adopted at the 1931 short course, is being used on letterheads by the agricultural committee of the Texas Bankers' Association, and is being carried into the field as a living principle by the extension workers and bankers.

MORE than 600,000 pounds of wool were marketed cooperatively in Pennsylvania last year. This is the largest amount ever handled by the pools and represented the product of more than 4,000 flocks in the 36 counties served by the 28 cooperative organizations.

Two new organizations entered the field of cooperative wool marketing during the year, one in Berks County and the other in Northampton County.

Pennsylvania wool producers have carried on a 12-year program in cooperative wool marketing. During that time they have sold 4,578,000 pounds, and the rejects or unmerchantable wools have been reduced 10 per cent as a result of the lessons learned at the grading table.

WHAT'S this? asked a stranger upon entering a Texas bank and seeing shelves and shelves of neatly labeled and arranged canned fruits, vegetables, and meats. The banker quickly left his desk and came out to explain. "That's a 4-H pantry set up by a home demonstration club woman and the home demonstration agent in this county. It shows what the farm women of our county are doing and is considered as one of the biggest steps toward prosperity by the bankers and business men as well as by the farmers. Every pantry in reality is a branch bank where the farm family cashes its check for wholesome and palatable food."

Placing pantry exhibits in the bank lobbies is one way Texas bankers are cooperating with the extension agents in encouraging the live-at-home demonstrations which, according to one estimate, have resulted in the use of 15,000,000 containers for food during 1931.

Organization Effected

A cordial and helpful relation between bankers and extension workers has always existed, but in 1929 the more or less hit-and-miss relation was replaced by a very definitely planned organization. It was then that the agricultural committee of the Texas Bankers' Association was reorganized so that each member became a chairman in his district. This territory corresponded with that of the extension service district. Of course, the general chairman is for the whole State. Every county has its key banker who works with the men and women agents and reports to the district chairman. Since the reorganization of the bankers' agricultural committee, a bankers' day, with a special program, has become a regular part of the farmers'

County Builders' Schools in Kansas

THE county builders' schools, as held each year in the various counties of Kansas, are considered to be one of the most important means of acquainting farmers of the State with the recommendations concerning farm buildings.

Since 1920, the Kansas Extension Service has been giving assistance to farmers in solving their farm building problems. For the first five years, the work was conducted directly with the farmers by means of meetings and farm visits arranged by the county agricultural agents. A standardized farm building-plan service was started and a large number of plans were distributed.

As this program made no direct effort to reach either the retail lumber dealers or the carpenters constructing buildings in the rural districts, the farmer was frequently confused by the conflicting advice he received from his dealer, carpenter, and from the extension service. To remedy this situation and to extend the use of the recommended farm building plans, meetings were first held in 1926 for the benefit of both the building material dealers and building mechanics. These meetings, which were called builders' schools, were designed to acquaint dealers and mechanics with the reasons for advocating the adoption of the plans recommended by the agricultural college.

Schools Held

Fourteen counties arranged schools the first year with an average attendance of 12.7 dealers and mechanics. In most places the meetings were given a hearty response from those in attendance, and requests were made to continue them.

A series of three meetings was first planned and later was increased to five.

The second year 22 counties held builders' schools with an average attendance of 16.8. There were instances where a few farmers attended, but no effort was made to encourage their coming. By limiting the attendance primarily to those directly interested in building work, it has been observed that they are more free in discussing the problems under consideration.

Additional counties desired these schools, and the third year 35 schools were held with an average attendance of 17.2. In addition, a state-wide meeting was held at the college. About 70 dealers attended a 2-day session.

The fourth year, 43 counties held builders' schools with an average attendance of 16.

For one specialist to reach this number of counties it was necessary to schedule some of the meetings late in the spring after the building season had begun. This resulted in a decrease in attendance at the late meetings. The general plan is to hold these 1-day schools during the winter months when normally neither the dealers nor the mechanics are busy. During the last year, 33 counties were reached with an average attendance of 19.7. For two of these counties, this represented the sixth program. A record is kept of those attending builders' schools, a few names showing a perfect attendance record for all six years.

In addition to the talks given by the extension specialist, the county agent, local dealers, carpenters, and farmers take part in the discussion. Several of the building-material interests, such as

the Portland Cement Association, National Lumber Manufacturers' Association, and others have furnished representatives to assist with these meetings.

Film Strips Used

At the beginning of these meetings, the illustrative material was prepared in chart form. Later on in developing the programs, slides were used extensively. Last year, a pocket-size film-strip projector was used, which was found to be by far the most convenient method of carrying and showing illustrative matter.

In following up this work, the blue-print service has been found most useful, 2,720 sets of standard blue-print plans and specifications for farm buildings having been distributed last year. All of the 78 organized counties and 25 of the counties without farm bureaus were furnished plans last year which was a year of retarded building activity.

Approximately 25 per cent of the retail lumber dealers in Kansas have been reached through the county builders' schools conducted during the last six years. Probably all of those reached are having some influence on the buildings erected by their customers. The 2,704 new buildings, exclusive of silos, and 752 remodeled structures reported by the county agents are estimated to have cost in excess of \$500,000. No record is available on the total farm construction for the year. It seems probable that the construction reported by the county agents comprises at least one-fifth of the total for the State. On this basis, the farm building-plan service has influenced 20 per cent of the 1931 Kansas farm improvements.

A Timber Crop for North Carolina

"EVERY acre of farm woodland in North Carolina under management" is the slogan of the forestry extension work under the leadership of R. W. Graeber, extension forester in that State. There are about 12,000,000 acres of woodland in the hands of the farmers and small land owners together with about 1,500,000 acres of idle or abandoned crop land which should be bringing in a profit in the form of a timber crop.

North Carolina with her varied industry offers a fair market for almost any kind of merchantable timber in

reach of practically every farm section of the State. At certain seasons of the year, there is much idle labor on the farms which could be used profitably in cutting pulpwood, mine props, bolts for the manufacture of staves, crating, shuttles, handles, and baskets. The vencer mills, manufacturers of small dimension stock, and the crosstie market offer an outlet for much farm timber. The farmer himself has a market for the first crop to be taken from his woods—fuel wood. The farms of the State require approximately 4,800,000 cords of fuel wood annually for heating

homes, curing tobacco, and other purposes. Tobacco curing alone requires nearly 1,500,000 cords annually.

Demonstrations have shown that an average of eight cords or more of thinnings can be cut from each acre and leave a full stand of growing timber. Thus a systematic harvest of fuel wood alone would enable the farmers to put 600,000 acres of their woodland under management each year. Add to this a selective cutting of all farm timber going to market and it would be possible to put the entire acreage of farm woodland under management in 10 years and reach the goal of "Every acre of farm woodland under management."

Some Essentials in Economic Extension

NILS A. OLSEN

Chief, Bureau of Agricultural Economics

Part 2. Meeting the Problems at Hand

In last month's REVIEW Chief Olsen, in his discussion of essentials in economic extension, brought out the need of an understanding on the part of the extension worker of the powerful world forces at play in the economic situation. In this second installment he brings us to grips with the problems at hand and outlines ways in which the extension program may be adapted to meet them.

IN LAST month's issue of the REVIEW, I outlined to you some of the powerful forces that are undermining our markets. I pointed out that we must know what they are and adjust to them. At home there are just as many serious conditions requiring attention. A few of them can be indicated briefly.

In the better farming areas, many farmers are not realizing fully upon their opportunities. This may be due to the fact that their farms are too small or too large, the combination of farm enterprises is not properly balanced, the use of power and equipment is not as effective as it might be, or to other factors. In practically every farming area there is wide variation in the efficiency with which farms are operated. Economic research and extension people have a great opportunity for service in this field.

Submarginal Lands

And then we have the submarginal land problem. Large areas are sorely distressed because of low incomes, heavy taxes, and the like. It is a dismal picture of great agricultural areas in which people evidently can live only under the lowest standards of living. This is the

type of problem we are striking at in our land-utilization program.

Consider for a moment the farm taxation situation. The tax burden on farm lands is onerous and excessive. The farmer knows this is not an equitable condition of affairs and he must come to know what accounts for it. He can help correct this situation only if, as an American citizen, he insists upon its correction.

The rural credit situation is no less distressing. An appalling number of banks have failed. In my own home community, ordinarily a prosperous community, only a few small banks are left. Even the good risks in the community can not obtain accommodations which they sorely need. In some sections of the country there is complete paralysis of our credit and banking system. These are conditions that affect farmers in a very real way. The extension forces in my judgment should help farmers to a better understanding of these conditions and sound measures pointing to their correction. I have faith in the ability of knowledge to bring about results.

Tariff Policy

Everyone is or should be interested in the tariff. Farmers have a perfect right to know how the tariff policy affects their industry. It is not merely a question for politicians. It is a question that concerns them as much as reparations, international debts, and the like. If these problems have a bearing

on his business—and they do—why should not the farmer have a good working knowledge of them and wield the proper influence in their solution?

On the other hand, many are the mal-adjustments in our domestic markets. Industrial depression, unemployment, credit contraction, and deflation have brought the purchasing power of consumers to low levels. The quantity and quality of products produced has not been adequately correlated with market demands.

Much is said these days about the margins between producer and consumer prices. Distributors come in for their share of criticism. Some of this criticism is just; some of it is unjust. The various functions of marketing can not be performed without labor and physical facilities. These entail costs. We must always be fair with the facts. But I recognize that something can be done to narrow these margins.

Attacking Problems

Flank attacks are all very well and necessary but our present situation requires a frontal and collective attack upon present problems. Such an approach will have to do with great underlying policies which have a far more vital effect on American farmers than most of them realize—perhaps more than most of us realize.



H. M. Dixon,
Chairman, extension in
agricultural economics



Eugene Merritt



H. E. Drobish



D. W. Watkins



A. E. Mercker



J. K. Wallace

These six men comprise the field staff of the department in agricultural economics extension and are the joint representatives of the Bureau of Agricultural Economics and the Extension Service. The unit to which they belong was organized in 1930 under the chairmanship of H. M. Dixon.

What is the philosophy which should animate the extension service? I have been deeply interested in the work of the extension service. It is striking at the fundamentals. We have attacked a problem here and a problem there with telling effect. But I feel sure it is going to be essential to better appraise the relationships between all elements in the situation and make a mass attack upon these several segments of the problem if we are to attain real and permanent results.

I should not be satisfied that the extension service has realized its full possibilities until it steps out and attacks some of the problems which prudence might suggest avoiding. But we must somehow get across to the farmer that great forces affect his fortunes. We must get across to him that he will have to adjust himself to many of these forces. On the other hand, we must help him see that much can be done to remove obstacles and barriers to success.

Meeting Competition

There are in effect two types of problems—one that is directly attacked by the farmer himself; the other in his collective capacity. On his individual farm he alone can act, but here are unlimited opportunities for constructive action. But questions like this must be daringly raised: With the breakdown of foreign markets and with the growing competition, shall the American farmer run to cover or shall he meet this new competition? After all, will not the most efficient win? In my judgment we are going to have to fight it out in the arena of downright, keen competition. And I want American farmers to realize the situation and gird themselves for the battle.

On the production side naturally you will stress the outlook, and the adjustments that should follow. There are limits to the shifts that may be made. But if the facts relating to each crop are laid clearly before the farmer, we can leave it to him to make his own decision. He must have the very best facts for his guidance. He should have every bit of information that will help him reach a good decision. Perhaps the size of his unit is not right; perhaps he is not using the right type of power, the right kind of machinery.

Utilizing Research

I am not in sympathy with the disposition to minimize the value of research in the physical and biological fields. Our friends in these fields have done invaluable work. They have increased the returns to American agriculture by

developing new varieties of wheat, better products, improved strains of milk cows, control of disease and parasites. I do not know what we would do without them. But we must relate these results to results of economic research, and through a combination of technical improvements and economic adjustments realize the optimum results.

No one can gainsay the argument that it is perfectly sound and right to help every farmer to become efficient. If you increase a farmer's efficiency in production you are going to increase his net return. The man who has it in him to make good has every right to succeed; we ought to help him to succeed. On the other hand, many farmers are so handicapped by natural, economic, and other conditions that they can not succeed. You should have the daring to tell them so. If you carry through on the basis of that philosophy you can not be tripped up. It is sound.

Know Market Conditions

On the marketing side, it behooves the research forces of this country to provide a more adequate conception of the capacity of markets; when and how fast to feed these markets to realize maximum returns. We can not afford to stop there. The extension forces must so present and dramatize this information that the farmers of every section will know market conditions and outlook currently. There will be a certain amount of guesswork, but such service will take a large part of the guesswork out of marketing. There are many good farmers who do not know what we are doing in the field of standardization, inspection, certification, and the like. I am afraid altogether too few farmers are using the market news, crop and livestock estimates, and similar material now available. That information is hardly worth the paper we are putting it on if we can not reach the farmer with it.

Although the economic phases of your work are of vital significance, you as extension workers would make a serious mistake if you did not keep always before you the ideal of a higher standard of living among farm families. After all, that is what we are striving for. Let us know more about the best ways to expend the money we make; let us assist our people to elevate their level of living and to get the deepest satisfaction from life.

Repeatedly I have been impressed with the fact that although this depression is lashing us severely, it is not without its values. Many of us have come to realize, through it, that there are many things of consequence besides material goods. I

would not, for a moment, minimize the importance of having the wherewithal with which to provide beautiful homes and the like, but I believe that we shall never get what we should out of life until we learn to enjoy the finer things that come from within. That realization and the ability to act on it form a significant part of the extension program in economics.

Sound Thinking Vital

Even in regard to those great national questions that affect the farmer, he can do much to help himself if extension workers will help him to realize that he has some part in determining what the Nation shall do in the field of policies—as, for example, land policies, banking, currency, tariffs, international debts, relief measures. Lack of understanding has led to many wildcat proposals. Unfortunately wildcat thinking spreads rapidly because we have not cultivated sufficient fundamental thinking. We shall continue in serious difficulty, I fear, until we help our people think soundly on these questions. If we implant the right information in the farmer's mind, he will insist that his representatives do the constructive thing. He ought to so insist.

Knowledge—more knowledge—deep and searching—is what we need. Action on the basis of such knowledge, by the individual, the community, and the Nation, is no less essential. In many fields of endeavor what will count is action on the part of the individual. Action from the ground up is going to be all-determining. The economists and the statisticians will furnish us the facts, if we support them with our demand. But the extension forces hold the true key that will unlock the combination of factors that constitute the farm problem, for the key is education. If we are going to succeed in solving the agricultural problem, it will be through the intelligence of the farm people and the intelligence of the American people.

NINE district meetings were held recently in North Carolina to take the place of the annual extension conference. Each meeting included 10 to 12 counties represented by 2 farm women leaders, 2 farm leaders, 2 business men, 2 other interested people in the county, farm and home agents from each county, and the State staff. The economic status of each county had been determined and the specialists presented this material including what the county produced and what it lacked. The discussion centered around how the county could organize to establish better living conditions and to set a desirable goal.

Soil Improvement in a Maine Potato County



Applying lime on a check plot.

Clover growing where lime was applied and grass where no lime was used.



CUTWORMS, lime, clover, then more potatoes. This is a fleeting glimpse of the progress cash crop Aroostook potato growers made in increasing the use of lime from 350 tons in 1927 to 6,109 in 1931. "From cutworms to potatoes via lime and clover" might be an appropriate title for this story. Yet Aroostook potato growers are not interested in cutworms, lime, and clover primarily, but they are interested in their effect on potato crops.

Why mention cutworms? Just this—Verne C. Beverly, the Aroostook County agricultural agent, reports that in 1924 and 1925 clover failures were general throughout the county. In 1924, he says, the failure was due almost entirely to a heavy infestation of the black army cutworm. Literally hundreds of grain fields had no clover catches. An examination of these fields showed that a horde of cutworms had eaten the young clover seedlings. In 1925, he continues, clover catches were poor but the cutworms were scarce.

Thus far we have a problem, a puzzled county agent and a solution to be sought. We must digress at this point and explain that when Mr. Beverly attended college he was taught to beware of try-

ing to reconcile lime and potatoes in the same soil because lime would promote scab. When he went to Aroostook County he found this to be a common belief among potato growers, and why not—they had been taught that way.

Lime Applied

A. K. Gardner, crops specialist for the extension service at the University of Maine, says that probably less than 200 tons of lime was used in Aroostook County prior to 1925. But it was from these scattered farms where lime was used that the county agent discovered good clover stands. With the aid of the crops specialist, the county agent induced 18 farmers to try lime in 1926 and they responded by using about 200 tons. From then on until 1930 the number of cooperators and the amount of lime applied increased as follows: 52 farmers, 250 tons of lime in 1927; 197 farmers, 900 tons in 1928; 528 farmers, 4,934 tons in 1929. As mentioned before, 6,109 tons were applied this present year.

Percentage of clover catches where lime has been used is even more significant than the total tonnage of lime, Mr. Gardner believes. In the 5-year period (1927-1931) applications of lime

on farm demonstration plots gave an average of 89.7 per cent on clover catches. The parallel check plots where no lime was used showed an average clover catch percentage of 25.3.

Yield Increased

The Aroostook extension program for 1931 called for 300 cooperators as a goal. Mr. Beverly reports that 397 were enrolled and 345 have reported. Mr. Beverly also reports that a heavy crop of clover turned under has resulted in an increase of from 10 to 15 barrels of potatoes for each acre. This was the reason, he claims, that farmers were induced to apply lime.

Aroostook farmers have proved that it pays to lime but how much or how little lime is best for a particular soil in a potato rotation is another question. Back in 1925, Mr. Beverly had very little information on which to base recommendations on the amount to apply. In 1928, some tests were started by the Maine Agricultural Experiment Station which in time will throw light on the proper amount of lime to use.

In summarizing his reports on lime for 1931, Mr. Beverly says that the 345 cooperators made an average application of 0.472 tons for each acre. He also states that his cooperators were secured by the following methods: Planning meetings and project meetings, 214; personal calls, 83; project leaders, 68; and circular letters, 32.

Aroostook County, with an average yield of 245 bushels of potatoes for each acre in 1931, leads the country in both total production and production per acre.

As a tribute to their home demonstration agent, Mrs. Theodosia Hadnot, the home demonstration club women of Red River Parish, La., planted a tree on the courthouse lawn. Mrs. Hadnot was transferred to a position nearer her home after five years of successful work in Red River Parish.

Mountain State Tourist Homes in West Virginia under the supervision of the Mountain States Home Industries and the West Virginia Agricultural Extension Service entertained 4,000 tourists last season. There were 14 of these homes which came up to the requirements and displayed the uniform sign "Mountain State Tourist Home."

Research Aids Extension Effort

FACED with the problem of recommending practices in the development of the grapefruit industry, the Arizona Extension Service took steps to determine what practices should be recommended and to inform citrus producers regarding them, reports George W. Barr, extension economist.

Grapefruit production in Arizona on a large scale has developed since 1920. In that year, the year's crop totaled 65 carloads, as compared with 500 carloads shipped in the 1931-32 marketing season. Grapefruit plantings also continue on the increase in two Arizona counties, Maricopa and Yuma. In Maricopa County, 1,400 acres were set out in 1929, 3,070 acres in 1930, and 3,636 acres in 1931.

The industry is constantly facing new problems. Demands for expert advice come to the county extension agent offices not only from present producers but also from individuals who plan to go into citrus production. To meet this situation, the extension service detailed Reuben M. Hess, assistant county agricultural agent, Maricopa County, and Ronald B. Elmes, assistant county agricultural agent in Yuma County, to work with the State extension economist.

Data Obtained

Before definite recommendations could be made as to practices, however, it was necessary to have more data on the type of tree that would be the most productive in these counties and on how to grow this type of tree economically. The problem was taken up with the Arizona Agricultural Experiment Station and a plan for obtaining the data desired was outlined.

This plan called for a determination of the relative size of trees in each of 30 grapefruit groves. Each of these groves was planted in the spring of 1927 and consisted of Marsh seedless variety. The 30 groves comprise a major portion of the 1927 plantings and are rather evenly distributed over the entire citrus-producing area of Arizona, 20 being in Maricopa County and 10 in Yuma County.

Success in showing what practices were resulting in the largest tree growth depended upon an accurate measurement of the size of trees in each grove. In December, 1930, 36 grapefruit trees set out in the spring of 1927 were cut down and weighed separately. Before the trees were cut down, the circumference of each tree was measured 2 inches

above the bud and then a correlation was calculated between a function of the circumference and the weight of the trees. From this correlative a line of estimate was obtained which was later used to estimate the weight of all citrus trees of 1927 plantings. Every seventh tree in each of the 30 groves was then measured and from this measurement a weight calculation was made.

At the same time tree measurements were obtained, data were also collected on the practices followed by the farmers. The type of soil on which the trees are growing was obtained from a recently published soil map. Arrangements were also made for the collection of cost information and production information for the year November 1, 1930, to October 31, 1931. After one year, that is, in November, 1931, a second tree measurement was made of the same trees.

Production Records

Obviously the goal to be reached in grapefruit production is not necessarily large tree size but rather large production per acre, and beyond that, large net returns. Those carrying out the study were able to get individual tree records of production on three groves. A correlation of this production in the fourth year with tree size showed a substantial advantage in favor of the larger trees. Then, too, a high correlation was obtained between the production per acre by groves, and the average size of trees by groves. The other factor, that of net returns per acre, is a little hard to calculate on young citrus trees. This, however, was one of the factors analyzed in the detailed study.

During the year, the county extension agents kept the cooperating citrus producers in close touch with the progress of the study. Each producer was advised of the size of his grove in comparison with the average of all groves measured. He was advised, also, as to the relationship between his practices and the practices of the producers who had obtained the largest tree growth. Later, when the production returns were in, each cooperator received a statement showing his production per acre in comparison with the production of the average of the cooperators. The final report to these cooperators compared the practices followed by that third of the groves making the largest growth during the 12 months with the practices followed by that third of the grove owners

whose groves made the least growth during the 12 months.

In this way, the leading citrus growers of the State had the opportunity to understand and to see the need of research as a basis for effective extension work. This understanding of the basis for extension recommendations on the part of these leading growers, and what they told other growers in their communities about the results obtained, strengthened in no small degree the efforts of the extension agents to encourage each grower to adjust his practices with respect to the quantity of water applied, number of cultivations, and amount and kind of fertilizer used to obtain the largest net returns.

W. P. Moore

Extension workers in Virginia have suffered a severe loss in the death, on January 24, of the assistant director, William Poindexter Moore. Mr. Moore had been associated with extension work in Virginia for about 25 years, first as county agent in Bedford County, his home county; then as special agent; later as district agent in southwest Virginia; and in 1918 he was made assistant director with headquarters at Blacksburg. Mr. Moore was a graduate of the University of Virginia. County agents and district agents from all over Virginia came to the funeral to honor the memory of their old friend and co-worker. One group of agents drove over 300 miles. Mr. Moore is survived by his wife and two sons.

In speaking of Mr. Moore's death, Director Hutcheson said, "I consider Mr. Moore's death an almost irreparable loss to extension work in Virginia, the greatest, indeed, that we have sustained."

A Home Information Center

A home information center for Greene County, Ark., has been established by the home demonstration agent, Mrs. R. B. Rogers, as a result of her trip to the President's conference on housing and a long-time interest in better homes.

Such subjects will be emphasized as house plans, landscape gardening, built-in conveniences, plumbing, interiors, furnishings, draperies, electrical equipment, music, books and pictures, and child care and development. Each subject will be presented for one week. Home demonstration club women will take turns staying in the center, which will be open two or three evenings each week to give the men also an opportunity to attend.

The Farm Board's Part in Agricultural Education

FRANK EVANS

Member, Federal Farm Board

THE Government performs many of its functions through departments. The minutes of the Federal convention of 1787 make reference to the respective departments which the members of the convention had in mind and through which the executive business of the Government might be performed as such departments from time to time should be established. Only general reference to the subject was made, however, and that was in such terms as foreign affairs, domestic affairs, war, marine affairs, and finance. But in the course of development of the functions of Government, the Departments of Agriculture, Commerce, Labor, and others have also been built up. The growth of commerce, industry, and finance has given rise to various commissions including the Interstate Commerce Commission, the Federal Reserve Board, the Shipping Board, the Farm Loan Bureau, the Federal Trade Commission, the Tariff Commission, and the Federal Farm Board.

The question of the establishment of this Farm Board, the youngest of these agencies, had been a paramount question in the public mind for 10 years. The question as to its need arose as an economic issue, but it later became an issue of general public interest and one of first importance. It was discussed throughout the country in 1928, and the convening of a special session of Congress later to deal with it further emphasizes the importance it had assumed. Not only farmers, but business men generally had in mind the creation of a Federal agency to represent the business side of the agricultural industry.

The 1928 report of the United States Chamber of Commerce gives the result of a referendum vote which is in point, upon the following proposal:

"The committee recommends that a Federal Farm Board be created, the members to be appointed by the President of the United States, and be charged in considering the problems peculiar to agriculture * * *."

The recommendation was adopted by a vote of four to one.

The business men's commission in its report of 1927 recommended:

"That a Federal Farm Board, consisting of a small number of men appointed

by the President, should be established to aid in the stabilization of prices and production in agriculture * * *."

The farmers are interested in the work of the Federal Farm Board and in the agricultural marketing act much as a previous generation of farmers was interested in the act which provided for

They are in a sense interdependent. The one without the other is like a manufactory without a sales force or a transportation system without a traffic department.

Lincoln signed the agricultural college bill and we now have agricultural colleges in every State in the Union. They have served as a major factor in the development of a great army of men and women, located in nearly every county in the Nation, and teaching agriculture both by precept and example. Their work is not the work of the schoolroom; it is the work of the field. Their hours are not the hours of the time-server, but the hours of the servant. The extent and the quality of their service is not measured by the check book. As a result of their work we have farmers' community meetings, classes in farm management and home economics, boys' and girls' clubs, health programs, studies in marketing and valuable aid in building of marketing associations, and programs for the improvement of rural life generally.

The production phase of agriculture has been well provided for. Indeed, production has in some lines been expanded beyond existing needs. Distribution alone has been left to haphazard methods. The agricultural marketing act is designed and intended to bring about improvements and economies in the distribution phase of agriculture. Of course, it is not perfect, but as its worth is demonstrated, the time will speedily come when we will accord to it the same confidence and the same appreciation which we now give to the act that provided for the production phase of agriculture. The Farm Board is the agency through which this act is to be administered, and this is the all-sufficient reason for the interest of the farmer in the work of the Federal Farm Board.

The agricultural marketing act is not in the nature of an emergency measure. It provides for a long-time constructive program. It is just what its title implies—a marketing act; and its essential purpose is the building and fostering of a system of producer-owned and producer-controlled cooperative associations.



Frank Evans,
Member, Federal Farm Board

the establishment of the land grant colleges. The farmers availed themselves of the advantages of this latter measure. It is so often said that it has become commonplace, that American farmers are to-day, as a group, the peers of any agricultural producers anywhere, and this is conceded to have been made possible largely as a result of the beneficent influence of Government policy as declared through this college measure. This latter measure has been in operation long enough so that it is now taken for granted, and rarely, if ever, does anyone in these days question its worth.

The marketing act can not be satisfactorily appraised without taking into consideration this other epochal agrarian measure. This other measure was originally designed to make better farmers—better producers. The marketing act is designed to make better merchants of these better farmers. The two acts may well go hand in hand; one can not be wholly effective without the other.

As the "next friend" of these associations, the board is examining the organization papers and the general scheme of the respective associations asking for assistance, and is making recommendations with reference thereto. It is encouraging efficient accounting methods and systems of bookkeeping. It is urging the necessity of frequent and complete audits of accounts. It is advising against excessive advances, and in fact is urging the avoidance of the advance-payment system wherever, considering the character of the commodity handled and of the marketing operation involved, it is consistent to do so. The board is helping to develop cooperatives upon a sound basis. All this is done in the direct interest of the producer, and therefore in the interest of the country as a whole. In the past two and a half years the board has carried on 370 projects, this work extending into every State in the Union. In addition to this, the board, in cooperation with State agricultural agencies, has made a detailed survey of co-operative associations in 12 Northeastern States. The board is emphasizing the desirability of conservative financing, feeling as it does that there can be no more wholesome development than that which proceeds in the direction of financial independence.

The early American doctrine, "Keep out of debt" is as applicable to cooperative associations as to individuals. This principle to-day is having a struggle for its life in competition with the new idea expressed by the modern trade slogan, "A dollar down and a dollar a week." Neither individuals nor cooperative associations can go along with the proper feeling of security or face the future with real courage wholly on the basis of borrowed money. Occasionally, of course, borrowing money is necessary, but it should be avoided wherever reasonably possible, and should be resorted to only when it is clearly to the advantage of the association to do so. Better credit facilities should be provided so that prompt, efficient, and low-cost financing can be provided when the real need arises—this to the end that cooperative associations may gain economic stability and independence.

Because of its influence in the direction of these wholesome practices amongst cooperatives, the board is of vital interest to the farmer. The farmer is interested in these operations because he receives the direct benefit resulting from the establishment of a sound marketing system owned and controlled by himself.

New Director in Louisiana

J. W. Bateman



W. B. Mercier

J. W. BATEMAN is Louisiana's new director of extension. Director Bateman has been farmer and county agent, and at the time of his appointment as director was the supervisor of agricultural education in the State department of education. He succeeded W. B. Mercier, now director emeritus and extension adviser, who has been cotton planter, ex-

periment station worker, county agent, assistant chief of the Office of Extension Work in the South, and director of extension for Louisiana. Because of ill health, Mr. Mercier resigned to accept his present position as extension adviser and becomes the first to hold the title of extension director emeritus.

Bicentennial Film Strips

The intense love that George Washington had for farming, his agricultural pursuits at Mount Vernon, his keen insight into agricultural problems and ability to cope with them, his life as a country gentleman, and other phases of his farming activities are presented in a film strip entitled, "George Washington, the Farmer," recently made available for use in connection with the celebration of the two hundredth anniversary of the birth of George Washington. Another film strip has been completed which illustrates the song entitled, "Father of the Land We Love," written by George M. Cohan expressly for the bicentennial celebration.

Both of these film strips were prepared and illustrated by the Extension Service in cooperation with the United States George Washington Bicentennial Commission. Although intended primarily for use by extension workers,

they are also available for purchase by others. Persons desiring to buy copies of the film strips should forward their formal order to the Consolidated Film Industries (Inc.), Main Street, Fort Lee, N. J., and at the same time submit a request for authorization to purchase the film strips to the Extension Service of the United States Department of Agriculture. Both the order and the request for authorization are required. The series number and title should be indicated. With the film strips will be included without additional cost pamphlets containing descriptive information about the illustrations for lecture use. Sheet music will accompany the film strip of the song. Information about these series follows:

George Washington, the Farmer. Series 277. 74 frames. Price 53 cents.

Father of the Land We Love. Song by George M. Cohan. Series 279. 32 frames. Price 35 cents.

The Month's Best News Story

J. R. Beck, of Polk County, Oreg., takes the prize this month. His story might be classed as a feature story rather than as a news story except that it has a distinct time value. Beck has formed the good habit of making the widest possible news use of his annual report. When his records for the year are in he proceeds to let the people know just what has been accomplished through a series of news stories on outstanding features of his work. Sometimes when the annual report is released we find in the newspapers a story summarizing all the important phases of the agent's work for the year. Possibly Beck's way of taking his important projects and making a separate story of each is better. His story, which appeared in the Polk County Itemizer-Observer, is somewhat long perhaps, but he has given the people of his county a clear and convincing picture of what the promotion of alfalfa production has done for them. He tells them about the increase of alfalfa acreage in the last five years, what the money value of the crop is, what farmers first grew alfalfa in the county, how the effort ties in with a state-wide campaign sponsored by the agricultural college, how the business men, banks, and schools of the county have cooperated, how many farmers are now growing alfalfa in the county and the names and location of many of them, what the latest methods used in growing the crop are, and how much increased production has been obtained on various farms from hogs and dairy cattle to which alfalfa has been fed.

Alfalfa Pays Big Dividends on Polk Farms

Development of New Crop Phenomenal in Five Years; Benefits Experienced by Dairy, Sheep, Poultry, and Hog Industries

By J. R. Beck, County Agent

FROM 70 TO 3,500 acres of alfalfa in five years. Almost every nook and cranny of Polk County now has some alfalfa successfully growing where but a few farms in the entire county were producing this wonderful crop back in 1926. Replacing other crops for hay and finding new uses each year, alfalfa has taken the fancy of livestock men and poultry men all over the county. Its introduction and successful culture now means nearly \$25,000 to the county each year over other crops on the same land.

One of the best known of the earlier fields in the county is that grown by Robert Pence on the Nesmith farm at Rickreall. It has produced as high as 5 tons per acre and is just as good now as it was several years ago. Several farms had good stands at that same time. In those days, just five years back, a 5-acre field was considered some size. Now there are a good many fields of 20 or 30 acres each, and Byron Ruddell of Oak Point has a field containing upwards of 80 acres.

For years different farmers of western Oregon had tried producing alfalfa but without very great success. In 1922 O. T. McWhorter, then county agent of Washington County, working with his farmers, developed the successful features that have firmly established alfalfa in western Oregon. These practices were taken up by several other county agents and they in turn worked with their farmers until now every county has large acreages. County agent work was reestablished in Polk County in 1926 and from that time on the culture of this crop developed. This office has worked with hundreds of farmers in the county

during the past five years aiding in establishing acreages on their farms.

At first soil was tested, seed was secured for the farmers, for at that time very little Grimm seed was available, inoculation was brought down from the college and distributed, meetings were held, and the various problems talked over. This work has been continued each year, except that now local seed dealers handle hundreds of pounds of certified Grimm seed each year.

In the later years land plaster, superphosphate treatment, and cultivation demonstrations have been carried on to still further develop the best practices. Meetings have been held with farmers who were trying new methods of using alfalfa, such as the sheep pasturing on alfalfa in the early spring, started first by Byrd Walling of Lincoln. This has been taken up by many other prominent sheep men such as James Riddell, Wm. Riddell & Sons, J. B. Stump & Son, Zielesch Farm, Homer Link, and many others.

One of the biggest boosts given to interesting farmers to grow good fields of alfalfa was the silver trophies put up by the Dallas Chamber of Commerce in 1928 and 1929. The county was divided into 11 districts and the farmers in each district chose their best field and then visiting judges picked the county winner. Each year the 11 local winners were entertained at a luncheon in Dallas, followed by a presentation of the trophy. In 1928 J. J. Roberts, of Perrydale, was the winner and in 1929 C. Muller, of Independence, won the honor. Hundreds of fields were gone over each year and the best practices studied.

In 1930 the Farmers' State Bank of Independence sponsored a slogan contest for school children. A \$25 prize went to Bernice Blodgett, of Monmouth, for her slogan "Know and grow alfalfa" as the best entered by the 69 boys and girls participating.

Some of the first fields planted in 1926 were those of R. N. Bosley, J. B. Stump, James Riddell, Robert Pence, W. W. Rowell, Ernest Zielesch, M. I. Capps, D. R. Ruble, Claud Boothby, Henry Keyt, T. E. Blair, and others. Some of these are now the largest growers in the county. The Zielesch farm has upward of a hundred acres. On this farm the first successful alfalfa ensilage and alfalfa meal were produced for this section.

The new features that made the culture of alfalfa successful after so many previous failures were the use of genuine Grimm variety, late seeding along on a firm, well-drained seed bed, and severe cultivation of the stand each year after it was firmly established so as to eliminate weeds. Some stands have failed because these and previously known rules have been violated, but in the main the production has enjoyed a high degree of success.

Alfalfa has brought increased yields. Good stands regularly yield from 3 to 5 tons per year and some run quite a bit higher than that. In addition much pasture is provided in the early spring and in the dry weeks before fall rains. A good alfalfa field is a money-maker.

W. O. Morrow of Rickreall pastured 23 pigs from April to August on three-fifths of an acre by adding only 1,000 pounds of grain. The resultant increased weight of the hogs after subtracting the grain cost brought in \$256 for less than an acre of alfalfa.

Joe Eisele of Buell reports that butterfat production increased 5 pounds per cow last January simply by feeding them alfalfa hay. Ed. Harmon states that alfalfa sod rejuvenated a field for him and increased the following wheat crop 15 bushels per acre.

On the markets alfalfa hay regularly brings \$2 or more above other hay. On such a basis every acre of alfalfa now growing in the county means from \$6 to \$10 in the pockets of its owner each year. On this basis alone, the 3,500 acres mean at least \$24,500 annually to the county. But the benefits don't stop at the increased hay value. Pasturing and many other features already mentioned contribute to the value of this great crop.

Nearly 200 farmers are growing alfalfa in the county, of which this office has a record and with whom we have worked. There are quite a number of others. Still the job is not complete. After careful consideration of the livestock demands of the county and also the available soil, it is the opinion of the writer that we should have double the present acreage, or at least 7,000 acres. Every farm that has cows, sheep, hogs, or chickens is a potential place for alfalfa production.

Hundreds of farm visits have been made in my work as county agent and hundreds of office calls and letters have been received for pointers on alfalfa production. Fields and farmers in every community of the county have been visited to determine on the best way to produce this crop.

Many trials of different practices have been worked out with different farmers. At present an alfalfa nursery is under way on the F. E. Pence farm east of Rickreall and carrying on of land-plaster trials in all parts of the county will be on the program for next spring. Limerock has been used and demonstrations of all kinds held. One of the outstanding limerock demonstrations was that on the Ernest Hoisington place this year.

Even yet there will be new practices developed. Through the hearty cooperation of farmers and business folks with this office, there has been firmly established in Polk County these thousands of acres of alfalfa which only a few years ago most people thought couldn't be grown west of the Cascades. In future years we will probably wonder at how simple the growing of alfalfa really is. Pioneering is quickly forgotten by those now directly connected with it.

The 4-H club boys of Escambia County, Fla., knew what to do last year and they did it. For two months County Agent E. P. Scott was sick and could not visit the clubs, but the work was kept up and 30 per cent more boys than the year before completed their club work.

Farmers Who Make Money

B. H. CROCHERON

Director, California Extension Service

THE AGRICULTURAL situation is bad enough to occupy national attention; the times are desperately hard for many people. Nevertheless, some farmers are finding agriculture a profitable business even in these days of depression. It has been said that nobody is making any money out of farming. Such a statement is not correct.

"high-profit group" and a "low-profit group," those in the high-profit group usually made a net profit.

Good Yield Is Important

By analyzing the details of these studies it is seen that the greatest factor causing the difference between profit and loss is that of yield. Sometimes there are other factors but, by and large, it is usually the man who gets a high yield who makes a profit. Tons of fruit per acre, pounds of butterfat per cow, or eggs per hen, is usually the deciding factor in the success of farming.

This explains why farmers are still interested, first of all, in production problems. Farmers know that if they make a big crop they may make money. If they get a small crop they certainly won't make money.

Theorists say that in these days farmers are not interested in cultural problems. We do not find this to be the case. This does not mean that economics is not of prime importance but rather that good farming begins with the production of high yields at low cost. The man who succeeds in getting high yields wins out even in times of low prices.

These studies also show that among a group of men in the same locality, growing the same crops, there is an enormous variation in the yields they get and the profits they make. This may be the result of differences in soil. Some men are wise enough to buy good land. But not all these differences are explainable in the land. Good farming is still the gateway to frequent success.

	Number of farms	Net profit per acre		
		High-profit group	Low-profit group	Average
Almonds:				
Butte County-----	23	\$31.84	-\$27.40	\$12.03
Apricots:				
Stanislaus County-----	18	29.57	-\$75.62	-42.27
Apples:				
Sonoma County, Gravensteins-----	19	46.35	-40.41	.44
Sonoma County, late varieties-----	11	45.41	-65.76	-5.48
Clingstone peaches:				
Sutter County-----	20	13.50	-32.04	-6.55
Pears:				
Lake County-----	14	-59.61	-115.34	-88.44
Mendocino County-----	15	-5.44	-106.46	-60.24
Sacramento County-----	14	-32.75	-164.73	-98.61
Prunes:				
Colusa County-----	27	17.60	-25.20	1.20
Napa County-----	13	13.32	-65.52	-10.76
San Benito County-----	13	-----	-----	-65.98
Sonoma County-----	28	68.43	-25.37	3.09
Walnuts:				
San Joaquin County-----	19	104.42	36.07	85.11
Cotton:				
Tulare County-----	13	8.81	-7.81	-1.35
Net profit per cow				
Dairy:				
Marin County-----	5	-----	-----	\$41.81
San Luis Obispo County-----	7	-----	-----	9.46
Tulare County-----	7	-----	-----	25.31
Net profit per hen				
Poultry:				
Santa Cruz County-----	17	\$1.15	-\$0.27	\$0.32
Sonoma County-----	46	.88	-.24	.23

A number of our enterprise efficiency studies have been analyzed. In these studies farmers kept careful individual records of their business in cooperation with the agricultural extension service. Every legitimate cost is charged against the enterprise, including cash costs, depreciation on orchard or livestock, value of the farmer's labor, and 6 per cent interest on the investment. The item called "net profit" is what is left after all these are deducted. Now, notice how they run. While the average of most of the groups lose money, nevertheless, when they were divided into a

Despite a serious drought, Rio Grande County, Colo., farm women who are members of home demonstration clubs have canned 9,861 quarts of vegetables and fruits and stored 14,165 pounds of vegetables, under the leadership of Nellie Mathews, county home demonstration agent.

Beginning last spring, these women budgeted their family needs in vegetables and fruits for the summer and winter, studied gardening, canning, storing and drying of vegetables, and raised excellent garden produce in spite of the drought.

4-H Club Members Teach Themselves About Barberries

A PLAYLET, "The Trek of the Common Barberry," depicting the migration, spread, and destructive qualities of barberry bushes, was an interesting feature of the ten 4-H club camps in South Dakota this year, and furnished a welcome variation to the usual routine of talks in the instructional work, says Samuel H. Reck, jr., extension editor in South Dakota.

Every second year, since 1925, the State office of barberry eradication has participated in the camp instruction by conducting classes in stem-rust control. This year, however, when H. M. Jones, the State club leader, asked Ray Bulger, leader of the barberry office, if he wanted some time on the camp programs, he replied in the affirmative but mentioned that he was profoundly weary of the old-style type of presentation by talks and charts.

The two got their heads together and the upshot was a decision to present the material in the form of a playlet. Happening to run across G. D. George, agent of the United States Department of Agriculture, with headquarters at University Farm, St. Paul, Mr. Bulger explained the idea to him. In a burst of enthusiasm, Mr. George, who is also a cartoonist, dashed off the body of the playlet in verse, sketched his idea of the costumes which the characters could wear, and sent it to Brookings. Mr. Jones wrote a prologue and the playlet was complete.

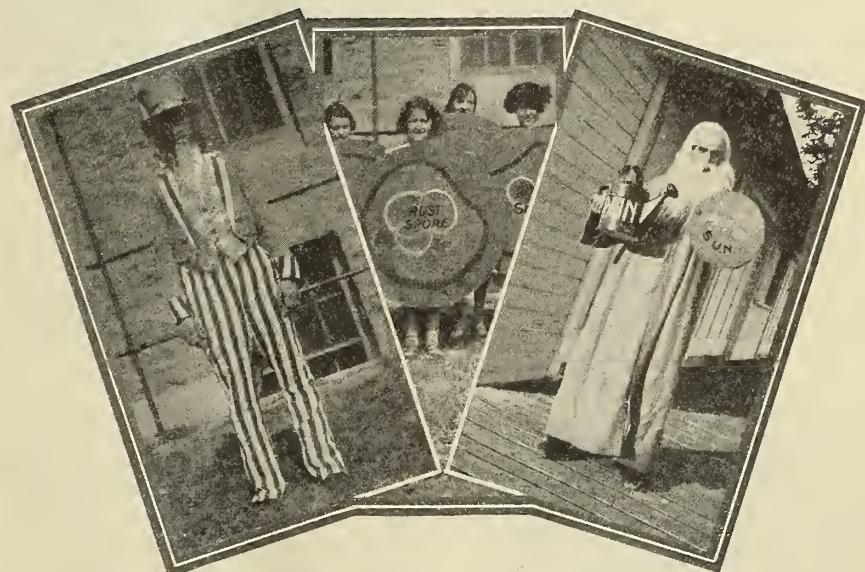
Nineteen characters take part. First on the scene is the Puritan Father, fol-

lowed by Barberry Bush and Doctor Science. Other characters are Farmer Brown, Old Man Weather, Grain, Spores, Merry Farmer Boys, Uncle Sam, and Eradicators Three.

Boys and Girls Appear in Playlet

The personnel of the playlet was selected from among the boys and girls at each camp. Casts were chosen before the camp opened, through the cooperation of the county agent. Time for rehearsals was necessarily limited, but the parts are simple and the costumes, which

were furnished by the Conference for the Prevention of Grain Rust of Minneapolis, aided in creating interest. The playlet was so popular with the club folk that George Frandsen, assistant leader of barberry eradication, who handled the project, and Mr. Bulger repeated it at the junior short course for 4-H club members at the college, December 27-31, with an all-star cast selected from the 10 casts which participated at the club camps. It is also planned to include the playlet as a feature of the agricultural short courses to be held this winter in various parts of the State.



Some of the characters in the playlet

Home Gardens in Ottawa County, Mich.

SEVEN DEMONSTRATION gardens, grown in Ottawa County, Mich., were visited by 1,163 people during the season, reports Muriel Dundas, extension specialist in nutrition. The gardens were planned and planted with special attention to selection of seed and ease of cultivation under the supervision of Esther C. Lott, home demonstration agent, and with the cooperation of George W. Woodbury, extension specialist in horticulture. Garden plots were approximately 110 by 200 feet to allow labor-saving methods in planting and cultivation. They were designed to be adequate for the needs of a family of six for one year.

The total cost of the gardens including seeds, fertilizer, and material for in-

sect control amounted to \$74.20, while the estimated value of the gardens was \$415.

The gardens were developed as an outgrowth of the nutrition work which interested women in growing more vegetables for home consumption. A poster campaign was conducted prior to the planting season, and 100 posters were displayed and judged at the 4-H club achievement day.

Gardens Visited

Community meetings were held at the gardens at which methods of insect control, canning of vegetables, and other means of storage were discussed by the home demonstration agent and specialists.

The reports indicate an average of five new vegetables per garden, which necessitated instructions in suitable preparation. Women were interested in acquainting their neighbors with broccoli, endive, eggplant, and Chinese cabbage and were generous in distributing surplus products to their friends.

Canning demonstrations were used to introduce better methods of home canning. A total of 1,058 quarts canned from the gardens means a like improvement in quality of meals for all the families.

Through 4-H club activities New Hampshire boys and girls contributed nearly \$60,000 to rural family incomes in 1931, according to C. B. Wadleigh, State 4-H club leader, University of New Hampshire.

Hot Lunches Aid Health

IN 17 of the rural schools in Calvert and St. Marys Counties, Md., 539 children are asking, "When do we start hot-lunch clubs this year?" These girls and boys enjoyed a hot bowl of soup or creamed vegetable for 60 days during the last school year through the cooperation of the homemakers' clubs, the home demonstration agents, teachers, the American Red Cross, and other organizations. They are eager to have it again this winter.

The story of the hot-lunch clubs in these two counties of southern Maryland goes back to the effort of a teacher in a 1-room school in Calvert County in 1929. Discouraged at the report each year from the health nurse as to the physical condition of her pupils and the low attendance records during winter months, she asked for help from the health nurse and home demonstration agent.

Though there was very little to work with, either in equipment or supplies, and there was almost no community interest in hot-school lunches, these women succeeded in providing a hot dish for these youngsters throughout the winter. The results were most surprising; the children liked it; they gained in weight and maintained an excellent health and attendance record for the winter; the parents were pleased; and the whole community became infected with enthusiasm for the hot-lunch clubs. By the next fall, many of the rural schools in Calvert County and the adjoining St. Marys County were eager to start a hot-lunch club.

Committee Plans Work

To plan for the second year's work a committee was formed in each county consisting of the health doctor, health nurse, superintendent of schools, a school supervisor, the county chairman of the Red Cross, the president or a representative of the homemakers' club, and the home demonstration agent as chairman.

The home demonstration agents were asked to meet the teachers to discuss equipment needed and to consider the ways of raising funds. The reports from the 17 school teachers contain many human-interest stories on how money was raised.

January saw the project ready to be launched. The home demonstration agents had given help in training older boys and girls in the preparation of the hot food to be served. The plan was to serve at least three times a week and to have cocoa only once during that time. The reason for this was that the health nurse and home demonstration

agent hoped to teach the children to like new foods.

Results began to be obtained in ways least expected. In St. Marys County one teacher had a perfect attendance for the first three weeks after the project started—an unusual condition for her school, where six to eight might be away each day.

Children who had not been bringing any lunch came with some biscuits or bread to eat with the hot lunch. The noon hour became a sociable time; more time was taken to eat, and children became interested in a few table manners.

Health Nurses Cooperate

The health nurses in both counties visited the schools and checked the physical condition each month. In the six schools of Calvert County the average gain in weight of children within 5 per cent of normal was 3 pounds while the gain of children 10 per cent below normal was 4.6 pounds.

All 17 schools in the 2 counties served the lunch for at least 60 days. When hot weather came, milk drinks were served. The children who were greatly underweight were usually given milk at 10.30 in addition to the noonday luneh.

Equipment Obtained

In planning for this year the third year of the hot-lunch club, a list of the equipment that was considered absolutely necessary was prepared by the district agent, nurse, and home demonstration agent. Meetings with the teachers were held and the list discussed. In Calvert County three schools have consolidated so that had to be considered, as only two had been enrolled in the project last year. By careful selection, enough equipment was obtained to serve 110 children in place of those in the original 1-room schools. The county superintendent had a hot-lunch room built into the new consolidated school and installed a sink with hot and cold water.

The parent-teacher association is making the serving of hot lunch their main project for the year. The district agent and home demonstration agent helped to plan, suggested equipment, and are acting as advisers to the woman hired to prepare the food. A small charge is being made for all the food served.

It is planned to have every school in Calvert County serving a hot dish. All new schools will have a room built in them to make it possible to serve the lunch conveniently. The whole county is interested in this phase of health work and every organization is cooperating.

In St. Marys County only one school of the eight enrolled last year is not carrying the hot-lunch project this year. The teachers are realizing that the children and parents are interested and will help finance the work. There are not as many organizations to help, and the schools are located in isolated sections where it is hard to raise funds, but in spite of the handicap the work started in December.

Boys Build Tables and Cabinets

Twenty-eight dollars covers the cost of all the equipment needed to serve 30 children easily. Boys in many of the schools are constructing cabinets, work tables, and shelves to use in the hot-lunch corner. The home demonstration agent in Calvert County displayed at the county fair the equipment to be used in one of her schools. A work cabinet held the equipment. The cabinet was painted white inside and out. Curtains were of green print. The 2-burner stove was in the color scheme as its enamel finish was of soft green. Every mother and every school child stopped to admire the attractive corner and to read the posters. One poster showed the hot-lunch corner in most of the schools last year, together with pictures of the lunch being served.

It will be interesting to have the report from the health workers, the truant officers, teachers, and home demonstration agents next spring. The work in 1930-31 reached far beyond the original hopes of all the committee. The test will come this year when the schools are financing it themselves.

National 4-H Club Radio Program

Saturday, April 2

4-H poultry pays. By club boy.
Planning the home garden. By club girl.

What 4-H club work has meant to our community. By community leader.

Significant accomplishments of 4-H club work. By Gertrude L. Warren, Field Agent, Office of Cooperative Extension Work.

AMERICA'S COUNTRY DANCES

A Virginia Reel.
Oh! Susanna (*Foster*).
Captain Jinks.

Turkey in the Straw (*Transcribed by Guion*).

Sailors' and Fishers' Hornpipe.
Arkansas Traveler.
Old Zip Coon.
Money Musk.
Old Dan Tucker.
Pop Goes the Weasel.

Good Pictures Taken by County Agent



This check plot shows fertilized corn on the left which produced 70.3 bushels per acre whereas the unfertilized corn produced only 65 bushels

The winner of Missouri's annual contest in extension photography, J. Robert Hall, county agent of Linn County, has been asked by the editor of the EXTENSION SERVICE REVIEW to tell how he gets his pictures and what use he makes of them. Mr. Hall is nearing the completion of his eleventh year of continuous service in Linn County and his fourteenth year in county agent work in Missouri. His training in photography has been gained concurrently with his work as an agricultural agent and, largely through this experience, supplemented, as he says, by instruction from representatives of the Washington office. His own statement follows.

NO COUNTY program of extension work will go over in the largest way without local pictures, and they must be good. I have never been able to get as many persons as I desired to see the best demonstrations; but where 40 have come to a meeting and seen a good demonstration, I have photographed its essentials and shown it to 4,000, explaining details with the film strip. The use of good local pictures made into film strips is the reason for photography.

Each year I have a film strip of about 50 frames made and show it to farm people in 18 community meeting places and before business and civic organizations as a summary report and program-building feature. The cost of the film strip this year under the United States Department of Agriculture contract was \$13.50, and was the best work we have ever had.

A film strip is dead to an audience if there are no persons in the picture. A film strip should contain pictures taken in every part of the county where it is to be shown. It will draw large and interested audiences where demonstrations can be talked in terms that are familiar to all.

Pictures Have News Value

Not all pictures are good enough to make clear frames on film. I take about 250 pictures a year and have finished more than 1,000 at a cost of more than \$100. This seems expensive, but many of them have news value and sell for more than enough to pay the entire cost. It is expensive to have a picture reproduced locally in print but when a farm paper or magazine prints one the cut is available without cost and, with proper credit, can be printed locally.

To get better pictures should always be the aim of every extension worker. This can be accomplished only by taking more pictures and profiting by every mistake. Improvement can be accomplished only by knowing the principle of the camera and exactly how to operate it.

Farm Photography

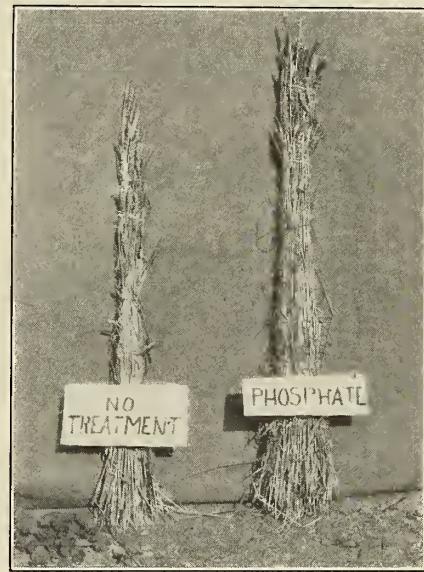
Farm photography is difficult because of the variability of all factors, such as speed, light, background, size, and distance.

I do not try to take pictures without a tripod. It should be as high as will permit a view into the finder. The top should be swiveled to permit a quick set-

up. The best photographers never hurry. Set up at a point that will reveal some shadows so the picture will have definition and depth. The light directly behind the camera usually makes a flat, dead picture. Have an object of well-known size in the picture, such as an animal, person, fence, yardstick, crops; and other objects in the picture will thus be shown in their true size. Have in the picture only the things necessary to tell the desired story, but be sure they are there. They can be cut out and enlarged or used on a film frame at the exclusion of the undesirable.

Choose the background well; get out undesirable objects by moving the camera or the object, setting upon a stepladder or building and shooting down, getting the camera low down or opening the diaphragm wide, cutting down the time and focusing accurately by measurement. Seldom take a picture less than 25 feet distant without knowing that the distance is within a foot of being correct.

Nearly all pictures can be taken with an exposure of one twenty-fifth of a second, but if there is any doubt, place the camera on a tripod or other support and use one-tenth of a second or more. These longer exposures used with smaller diaphragm opening usually result in better negatives than when snapshots are used.



Fertilizer made the difference in this wheat harvested from the same area, 150 pounds of phosphate increasing the yield from 12.6 to 18.5 bushels per acre

Two recently introduced products have been helpful to me in taking good pictures—the supersensitive film and the flash bulb. The latter permits me to get inside and night pictures satisfactorily.

THE MIDDLESEX COUNTY EXTENSION SERVICE

SAYS:

"KNOW YOUR GROCERIES"

Are You the "Goop" who Orders:

"A can of peas—"

"Oh any brand, it doesn't matter."

"Just send the regular size, numbers don't mean anything to me."

There were given to grocers in Middlesex County 200 posters and 10,000 blotters bearing this message. The posters were displayed in a conspicuous place in stores, and the blotters were inclosed with grocery purchases.

"TO EVERY Middlesex village and farm the slogan 'Know your groceries' has become familiar during the past year's county-wide program on marketing," says Regina Feeney, home demonstration agent, Middlesex County, Mass.

In a recent survey taken among home makers in the county two important problems were found to be saving of time and money; in the words of the home maker, "stretching the family income," and "finding time to do all the things I have to do with some time for leisure."

Taking these two objectives as a basis, a 5-year program of work was planned through the cooperation and advice of the

OR

Are You the Sage who Investigates:

"It's worth my trip to find this grade of food so reasonable today."

"And this new dark bread! How my family will enjoy it!"

executive board of the home makers' section composed of nine home makers, the advisory council, which includes the officers of all extension units, the State home management specialist, Mrs. Harriett J. Haynes, and the three county home demonstration agents. Mary E. Foley, extension nutritionist, also assisted with subject matter and plans.

The emphasis last year was placed on shopping for groceries, and the problem was how to reach the entire population, the hundreds of home makers who did not come to extension meetings.

Another conference—and then the idea came. They all have to buy groceries. Why not ask the merchants to help?

Preliminary visits to a number of progressive grocers, explaining the idea of a poster to be accompanied by a window display met with unexpected enthusiasm on the part of the merchants. They were eager to do their part in improving practices in shopping, and it was particularly interesting to see the grocer in the small community store thinking of certain large families with limited incomes who would profit by such an exhibit.

Window Exhibits

Two hundred large posters were made and 10,000 blotters, 3½ by 6 inches, were printed with the slogan "Know your groceries." Each grocer received a large window card and a supply of blotters to be stuffed in with grocery purchases. The window exhibits included package goods versus bulk supply, various grades of dried fruits, canned goods, and an exhibit of the contents of the various cans. Each individual display carried a small tag stating weight, quality, and price.

To reinforce these displays news articles, explaining the home makers' program in marketing and stating that the exhibits would be seen on a certain date, were sent to the local newspapers.

Local leaders played a vital part in putting across this project by visiting merchants in their communities and planning with them for a store-window exhibit.

As a result, this piece of work served its purpose by bringing to the attention of large numbers the importance of wise buying.

New Motion Pictures

SEVERAL new films produced and distributed by the office of motion pictures of the United States Department of Agriculture, which were designed primarily to aid in the work of the extension and field workers of the department and cooperating State institutions, have been released in the past few weeks. These pictures, now available to extension workers, include the following:

Preparation and Marketing of Dressed Poultry (two reels), sponsored by the Bureau of Agricultural Economics, shows methods of guarding live poultry at country feeding stations; methods of feeding and care of the feeding room; slaughtering, picking, precooling, and packing; a short synopsis of the Long Island duck industry; the cold storage of poultry; and Government grades for dressed poultry.

Marketing Live Poultry (one reel) points out the necessity for culling on the farm; contrasts old marketing methods with modern methods and shows care of live poultry en route to market, and killing and dressing in the city slaughterhouses. Government inspection of poultry in New York is pictured.

Inspection and Canning of Poultry (one reel) also sponsored by the Bureau of Agricultural Economics, shows in detail new methods used in canning whole chicken and various chicken products from the time the poultry is received at the cannery until it is cooled, labeled, and packed.

How the Federal Inspection of Imported Seed Protects the Farmer (a 2-reel motion picture), sponsored by the division of seed investigations of the Bureau of Plant Industry, shows how the Federal seed act keeps out bad seed and thus protects the farmer from loss due

to poor seed and foreign weeds. How the tests for purity and germination are made are shown in detail, and the workings of the seed act in regard to imported seed are explained. This film is of interest to farmers, importers, and the general public.

Wool, "the world's comforter since the days of the patriarchs," is featured in the new 3-reel motion picture sponsored by the Bureau of Agricultural Economics, entitled "Wool Marketing and Manufacture." The film shows the essential steps in the proper handling of wool from flock to market and covers the whole process of manufacture.

These films are "silent." They are available in the 35-millimeter size. Borrowers pay transportation charges to and from Washington, D. C. To insure bookings, borrowers should apply well in advance of date of showing to the Office of Motion Pictures, United States Department of Agriculture, Washington, D. C., and give first and second choices of films desired.

·ACROSS · THE · EDITOR'S · DESK·

How They Make Money

“FARMERS know that if they make a big crop, they may make money. If they get a small crop, they certainly won’t make money. It is usually the man who gets the high yield who makes a profit.” It is thus bluntly and to the point that Director B. H. Crocheron of California sums up what his State has found out about the conditions under which the individual farmer can make money and what volume of business he must have to give him a chance to produce profitably.

Not a New Policy

IN READING the address given by Chairman Stone of the Federal Farm Board before the National Cooperative Council in January I note a statement on governmental aid of unusual significance. It requires neither comment nor amplification. He says “Certainly, the Agricultural Marketing Act can not be charged with inaugurating a new Federal policy of putting the Government in business. Look at what has been done in the past for industry through the tariff, for the railroads, for the banks, for shipping, for the automobile industry through the building of good roads, for labor through immigration restrictions, and other protective laws—just to mention a few. I think this policy of our Government in the past has been sound. I am for it, but I want agriculture, too, to be a beneficiary of that policy.”

Every Pantry a Bank

TWO EXCEPTIONALLY good slogans came to my desk not long ago. They were from Mildred Horton of Texas. One reads, “Every pantry is a branch bank where the farm family cashes its check for wholesome and palatable foods.” This slogan, I am sure, had not a little to do with the placing of 15,000,000 containers of home-grown foods in the pantries and storage cellars of Texas in 1931. It helped, also, in getting Texas bankers to ask for demonstration pantry exhibits in the lobbies of their banks, where all who came could see what a well-filled pantry should look like.

The second slogan, “Every farm a factory every week in the year,” sums up the objective of the continuous and intensive efforts of county extension agents in Texas for the past several years. To make this slogan a reality they have sought through well-planned and well-placed demonstrations to bring about the growing of sufficient food and feed supplies and income-yielding products to support in adequate fashion man and beast on every Texas farm.

He Is Optimistic

JAMES LAWRENCE of Pottawatomie County, Okla., was at work as county agent when the Smith-Lever Act was passed. The way he feels about present conditions and the future of extension work has encouragement, I think, for all of us. Invited to speak over the National Land-Grant College radio program in January, he said, “Even in this trying time I haven’t lost faith in farming. As a business it is fundamental and permanent. Our children’s children will find farmers on the job and, I think, too, that they will find county agents or men

who do the sort of work that county agents do now, working with the farmers of their day.”

As to the immediate future, Lawrence said to his audience, “Our farm trouble in large part is that economic development is forcing radical changes in every line of business in every part of the world. In the next few years we, county agents, will be bringing you much more information on farm management, accounting, and planning production.”

How Are We To Do It?

GEORGE W. BARR, Arizona’s extension economist, suggests a thought on the popularization of research as an aid to effective extension work. In 10 years grapefruit exports from Arizona increased from 65 to 500 carloads. This rapidly expanding industry demanded facts. Extension agents needed to know what to tell growers. Research was necessary. A study was developed in which 30 citrus growers made their groves available for necessary observations. As the study progressed the extension agents kept in close touch with all the steps taken. This information they passed on to each of the cooperating growers. When the study was completed, the extension agents were ready to bring the results to the attention of all grapefruit producers in their counties. In doing this, their position was much strengthened by the fact that their leading growers already had the information. Furthermore, the growers understood the research on which the extension recommendations were based and were willing to support them in talking with their neighbors. I hear some one say, “But in most cases, it wouldn’t be practical to conduct research in this way.” Perhaps not, yet it is admitted, I think, that there is a grave need for linking research and extension more closely together in the popular mind. Just how are we to do it then?

About Reducing Costs

“HERE’S sound agricultural economics for you,” was what George E. Farrell had jotted down on a copy of the Illinois Extension Messenger for January 27 that he sent to me. I knew that it was bound to be something about reducing costs. It was. As the States in his territory know, that’s what Farrell is insistently hammering on at present and rightly, too.

On page 3 of the Messenger, he had marked a statement by L. J. Norton. I’ll give it in part. I quote, “The outstanding problem which any business engaged in marketing faces at this time is how to adjust to the lower price level which has developed over the last two years. The quicker marketing agencies recognize this fact and make the adjustments in their charges and costs the quicker they will make this contribution to business recovery without which they can not long prosper. Farmers can influence the process in many ways. They may see to it that the cooperatives to which they belong make the right type of adjustments. They may support their cooperatives in bringing pressure on distributing agencies to lower costs. They can see that through their general organizations the existing situation and the nature of needed adjustments are brought to the attention of all marketing and transportation agencies.”

R. B.

Important Services

Contributed to the Farming
Industry by Agricultural Engineers

IMPROVED engineering practices can materially reduce farm costs of production. Studies are being made and practices developed that will solve many of the engineering problems being presented to extension workers.

THE Bureau of Agricultural Engineering serves the farm family in such matters as construction of farm buildings; choice, use, and care of farm machinery; mechanical means of combatting insects and plant diseases; irrigation; drainage; control of soil erosion; improvement of water supplies and sanitation; installation of heating plants; and many others.

INFORMATION has been made available in the form of publications, lantern slides, blue prints, and tracings. Use the services available. The bureau will help you with your engineering problems. Present them to the department through your State agricultural extension engineer or your State extension director.



Bureau of Agricultural Engineering, United States Department of Agriculture
Washington, D.C.